REPORT ON THE VISIT TO THE

SILENT VALLEY

AREA OF KERALA

By

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Report on the Visit to the SILENT VALLEY Area of Kerala

I visited the Silent Valley area in the Mannarghat Taluk of Palghat District, Kerala State in October, 1979 along with Shri M. K. Dalvi, Additional Inspector-General of Forests, Shri N. D. Jayal, Joint Secretary, Forestry and Wild Life, Shri J. C. Varmah, President, Forest Research Institute and Colleges, Prof. A. Abraham, Chairman, Kerala State Committee of Science and Technology, Shri P. M. Abraham, Agricultural Production Commissioner, Kerala, Shri K. K. Nayar, Chief Conservator of Forests, Kerala, Prof. H. Y. Mohan Ram, representing the Indian National Science Academy, Dr. K. Ganapathy, Director, Kerala Forest Research Institute, and several senior officers and scientists of the State Forest, Revenue and Agriculture Departments. The Kerala State Electricity Board (KSEB) which is in charge of the Silent Valley Hydro-electric Project (SVHEP) had made the necessary arrangements for the visit and was represented in the discussions by several of its senior officers. Prior to visiting the Silent Valley area, I visited the Kerala Forest Research Institute at Peechi and had discussions with the staff of the Institute on their findings on the possible impact of SVHEP on the specific ecological features of the Silent Valley area including flora and fauna. I also held discussions with the Staff of the Government of India – SIDA Ground Water Project at Coimbatore on the ground water conditions in Palghat and Malappuram districts. My views on the various issues connected with the implementaiton of the Silent Valley Hydro-electric Project are summarised in this report.

1 Description of the Area

The evolutionary age of the Silent Valley evergreen rain forest is believed to be more than 50 million years. This is a cliff forest which suddenly descends from the Nilgiri Plateau to the Plains of Kerala with a sudden drop in altitude from 2,500 metres to 150 metres across a distance of 3 to 4 km. It is not clear who named this area as "Silent Valley". It is believed that the name owes its origin to the relative absence of the *Cicada* insects which normally cause a distinctive sound in a forest environment. Zoologists are yet to study the reasons for the absence of this group of insects in the Silent Valley forest. I was, however, told by Forestry experts that *Cicada* has started occurring in the area in recent years.

The total area of Silent Valley Reserve Forest is 8,952 hectares. Three other reserve forest areas which surround the Silent Valley forest are :

1) New Amarambalam Reserve Forests : 8,000 ha.
2) Kundas Forests : 10,000 ha.
3) Attapadi Reserve Forests : 12,000 ha.

Thus, a total of about 39,000 hectares of reserve forest area is available in this region. The hydro-electric project will need about 845 hectares out of which 830 hectares will be submerged under the reservoir. I was informed that out of this 830 hectare area, 300 hectares are under grassland and the remaining 530 hectares are under forests. It has also been estimated that in the 530 hectares of forest land, the number of trees which have grown to the size of 125 cm. GBA is about 3,442.

2 The Socio-economic Benefits of the SVHEP Project

The Silent Valley hydro-electric project was conceived primarily to increase the availability of electrical power in Kerala State. The project site chosen in the Silent Valley Reserve Forest is ideal for the generation of hydel power. Unlike a thermal power station, hydel power generation does not result in atmospheric pollution. Being a clean and renewable source of energy, hydel sources of power should always be utilised to the maximum possible extent. It is hence not surprising that the original idea for a hydel project in this area was suggested as early as in 1921, although the Project was finally approved by the Planning Commission at an estimated cost of Rs. 24.88 crores on 15th February, 1973. In October, 1976, the National Committee on Environmental Planning and Co-ordination (NCEPC) requested that the work on this Project may be suspended until an ecological impact analysis is made by a Task Force set up by it for the ecological planning of the Western Ghats. This Task Force strongly recommended that the project should preferably be abandoned. If, however, this is not possible, a series of safeguards were suggested. The Kerala Government opted for the suggestion of introducing safeguards and proceeded with the necessary enactment. The Kerala State Legislature was of the unanimous opinion that the Project is of crucial importance to the State and a resolution was passed by the Legislature expressing anxiety on the continuing delay. An all-party delegation from Kerala met the then Prime Minister, Shri Morarji Desai, on 7-4-1978 and pressed for early clearance of the Project. The former Prime Minister in his letter dated 14th May, 1978, informed the then Chief Minister of Kerala that in view of the action by the State Government to enforce

the several safeguards suggested by the NCEPC Task Force, he has no objection to the State Government going ahead with the implementation of the Project.

The major socio-economic benefits of SVHEP are :

1) Generation of electricity by installing four units of 60 MW each ; according to the calculations of the Kerala State Electricity Board, it will not be possible to meet the energy requirements of the Kerala State by 1982 without this additional quantity of power, although today Kerala generates more power than it needs. Kerala has a total installed capacity of 1,000 MW, all from hydel sources.

2) The water from this Project will provide irrigation for raising an additional crop in 10,000 hectares in the Malappuram and Palghat districts.

3) Since the Project may ultimately involve an investment of 60 to 70 crores of rupees over a period of 6 to 7 years, it will help to provide employment and boost the economy in one of the relatively underdeveloped parts of Kerala. Also, during the construction phase, over 3,000 persons may find employment as a part of the work force.

Based on these considerations, a Silent Valley Scheme Protection Committee has been formed by local political leaders. Its President, Shri A. K. A. Rahiman, met our group and expressed forcefully the viewpoint of the general public of Palghat and Malappuram districts. He is of the view that abandonment of this Project particularly after an expenditure of Rs. 215 lakhs in investigative and preparatory work, will be against the interest of the

people of the area. According to him, the social benefits that will result from SVHEP to the people of Kerala will far outweigh any possible ecological harm caused by the utilisation of about 845 hectares of the Silent Valley forest for the Project. *Any scientific consideration of the pros and cons of the Project should keep in view the legitimate desire of the people to have more irrigation and power as well as more investment in their area.*

3 Safeguards Proposed by the State Government for the Ecological Protection of the Area

The Government of Kerala has enacted the Silent Valley Protected Area (Protection and Ecological Balance) Act of 1979. In pursuance of this Act, the Kerala Government has also constituted a Silent Valley Environmental Monitoring Committee, on 3rd October, 1979. The State Government officials stressed that the steps taken by Government will be adequate to ensure that the labour force numbering over 3,000 who will be employed during the construction phase of the Project lasting 6 to 7 years, do not indulge in the destruction of the non-project part of the Silent Valley Reserve Forests. For example, it was pointed out that the fuel wood needed by the families of the construction labour would be provided entirely from the trees in the area which will be submerged by the reservoir. After the construction phase is over, only 6 to 7 staff members will work in the dam site. It was also pointed out that a sum of nearly Rs. 1.5 crores has been provided for environmental monitoring work and that a considerable amount of research will be initiated on all aspects of the Silent Valley eco-system. The officers of KSEB feel that the package of protective and punitive measures being introduced by

the State Government may render the ecological fears to be unfounded. In any case they are convinced that the social benefits in terms of power generation and irrigation will more than compensate the possible harm that may result from widespread human interference in the project area.

4 Is S V H E P an Unmitigated Ecological Disaster ?

The ecological view point expressed by a large number of scientists, newspapers, Friends of the Trees and enlightened organisations like the Kerala Sastra Sahitya Parishad, is equally emphatic on the totally unwise nature of going ahead with this Project. The major arguments are as follows :

1) *Last chance for preserving an undisturbed rain forest ;* The Silent Valley reserve forest is perhaps the only remaining undisturbed tropical rain forest left in the Kerala State as well as in peninsular India. The flora and fauna of this area are quite unique and 23 mammalian species including three endangered species, i.e., Tiger, Lion-tailed Macaque and Nilgiri Langur, have been recorded. The Kerala Forest Research Institute has undertaken a detailed study of the possible impact of the hydro-electric project on the wild life of the area. Dr. V. S. Vijayan and Dr. M. Balakrishnan who have undertaken this study are firmly of the view that the Silent Valley Reserve forest represents the last chance for preserving for posterity a unique tropical rain forest, which is as yet relatively undisturbed.

2) *Uniqueness of the flora and fauna endemic to Silent Valley ı* The environment of this rain forest

is fairly stable, so that the fauna and flora have acquired a highly specific adaptation. The Coimbatore Regional Centre of the Botanical Survey of India, has identified several plant species which appear to be specific to the area. The Zoological Survey has conducted a study of the fauna of this area. Dr. P.V. Chandrasekhara Warrier of the Arya Vaidya Pharmacy Limited, fears that the unique medicinal plants of the area which provide the raw material for several herbal medicines will vanish speedily if the SVHEP is implemented. Even the preliminary findings indicate the rich biological and genetic heritage which the Silent Valley Reserve Forest represents.

3) *Alterations in Micro-environment :* Ecologists anticipate that impounding a large water surface within the forest, will lead to alterations in the micro-environment of the area. *They are of the view that a Monitoring Committee of the kind set up by the State Government will not be able to arrest ecological and geological damage, since the damage which will occur with the establishment of the Project will be due to factors beyond human control.* They hence feel that the natural evolutionary processes extending over a period of 50 million years which have resulted in the unique biological wealth of this tropical evergreen rain forest would be lost in case human interference on the scale proposed for implementing the Project is allowed. Possible seismic disturbances as a result of impounding of large quantities of water cannot also be ruled out. The landslides in the Nilgiris brought about by the current pattern of domestication of mountain eco-systems for human use also serve as a grim warning about the

shape of events to come. *Have we the right to deny to future generations the fruits of millions of years of natural evolution, just for adding about 7% additional power to Kerala's vast energy resources?*

4) *Point – Counterpoint:* The protagonists of the Project are, however, of the view that the mammalian species found in the Silent Valley area occur even more abundantly in a few other regions of the country. For example, they cite a study by Steven Green and Karan Minkwski which shows that the Ashambu hills have nearly 195 lion-tailed monkeys, while the Silent Valley area has only 60 of them. They feel that since a floristic survey of the entire region is yet to be undertaken, it may not be possible to say emphatically that some plant species are unique to the Silent Valley. They further ask why scientists did not take any interest in this area until the initiation of SVHEP, if the eco-system of this forest was so unique? Thus, for every ecological point, a counter point is given by the Members of the Silent Valley Scheme Protection Committee.

5 Next Step

In my view, the following steps will be advisable in order to achieve harmony between the needs of today and tomorrow and to promote the desired degree of development without the destruction of biological wealth of inestimable value.

1) The entire area of 39,000 hectares consisting of (a) Silent Valley Forest, (b) New Amarambalam Reserve Forests, (c) Kundas Forests, and (d) Attapadi Reserve Forests, should be developed into a National Rain Forest

Biosphere Reserve. The cost of developing *a National Rain Forest Biosphere Reserve* may be borne by the Government of India, since the preservation of this unique forest area will be to the benefit of both Kerala and the entire nation. The Silent Valley Environmental Monitoring Committee already constituted by the State Government could become the National Rain Forest Biosphere Reserve Planning and Implementation Committee and start the work immediately under the overall guidance of NCEPC. If developed along proper lines, the Silent Valley Rain Forest Biosphere Reserve can become a sanctuary for valuable genes in several medicinal and plantation crops.

2) The Kerala Forest Research Institute at Peechi may be developed into an international research and training centre for the study of tropical rain forest eco-systems.

3) A detailed ground water survey of the Palghat and Malappuram districts should be completed soon and steps should be taken to provide irrigation through the available ground and surface water resources in as much area as possible. I have discussed this with the officers of the Central Ground Water Board. The potential for irrigation through mobilising the available ground water sources seems to be very good. For implementing the irrigation project, *a Palghat and Malappuram Irrigation Project Committee* may be constituted immediately, jointly by the Central and State Governments. The Central Ground Water Board of the Department of Agriculture and Co-operation can undertake the task of organising the ground water survey and preparing a blueprint for irrigation in co-operation with the concerned Departments of the State Government. Since the present utilisation

of draft is only 12 to 15% of annual recharge, arrangements for providing irrigation to 10,000 ha can be made speedily.

4) The immediate electricity needs of the Palghat and Malappuram area could be met by developing suitable transmission lines from the Idukki Project area. Transmission schemes for Kerala costing about Rs. 45 crores have been provided in the VI Plan. Also, Idukki Stage II of 3 × 130 MW at a cost of Rs. 15.5 crores has already been approved by the Planning Commission. A long term energy profile and strategy may be prepared by a group of national experts with the help of the Kerala State Electricity Board, taking into account potential developments in the utilisation of solar energy.

5) Steps should be taken to promote suitable industries in the area so that additional opportunities for generation of employment can be created. *A Palghat and Malappuram Employment Generation Consorsium* may be set up for preparing employment and income generation programmes based on resource utilisation strategies.

6) The amount of Rs. 200 lakhs provided for SVHEP in the State Budget for 1980-81 could be utilised for ground water development, establishment of transmission lines from Idukki and for suitable industrial and agricultural projects. An adequate allocation should be made in the Plan Budget during the VI Plan period for the rapid eco-development of the Palghat-Malappuram region. Preferably, the entire allocation for SVHEP should be reserved for this purpose.

6 Conclusion

If steps are not taken to satisfy the legitimate socio-economic aspirations of the people of the area, mere talk about ecology and environment will be met with cynicism and with the question, "who is more important man or monkey?" On the other hand, if we proceed with the implementation of SVHEP without taking advantage of alternative methods of providing energy, employment and irrigation, will future generations forgive us for destroying a 50 million year old genetic heritage, particularly at a time when the solar energy option is not an illusion? *The alternative pathways available immediately for providing power, irrigation and jobs at no ecological risk will, in my view help to achieve the desired social goals more speedily and economically.* It should not be beyond our political, intellectual or financial capability to find solutions which can enable the present day human population of Palghat and Malappuram districts to experience a better quality of life without destroying a priceless biological endowment.

The expenses so far incurred on the preparations for SVHEP cannot be considered infructuous, since this project can always be activated if we reach a stage when there is no other way of meeting the regional power needs. The project blueprints should hence be carefully preserved. If say by 2000 A.D. it becomes absolutely essential to tap the power potential of SVHEP, it can probably be done with less risk of damage to the rest of the rain forest, since by then the National Rain Forest Biosphere Reserve would have helped in the protection

and regeneration of the entire area of nearly 40,000 hectares. Development without destruction will then not be an idle dream, as it will be if the present project is rushed through. If on the other hand, the project is rushed through leading to the destruction of the forests and to the loss of valuable genetic material, SVHEP will become one more testimony to the statement, "Every new source from which man has increased his power on earth has been used to diminish the prospects of his successors. All his progress has been made at the expense of damage to the environment which he cannot repair and could not foresee."